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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,120	10/31/2003	Michael Schmidt	Q78116	8458

23373 7590 02/26/2008

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EXAMINER	
LE, THI Q	

ART UNIT	PAPER NUMBER
2613	

MAIL DATE	DELIVERY MODE
02/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/697,120	SCHMIDT ET AL.	
	Examiner	Art Unit	
	THI Q. LE	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Action is in response to Applicant's amendment filed on 11/14/2006. **Claims 1-9** are still pending in the present application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1, 2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yan et al. (US Patent # 7,067,795) in view of LoCascio et al. (US PGPub 2002/0196497).**

Consider **claims 1 and 6**, Yan clearly show and disclose, a receiver for an optical time division multiplexed pulse train in which the pulses have alternating polarizations, the receiver comprising: a polarization selective element for separating from the isolated pulses at least one component that has a single polarization (figures 27 and 28 shows a WDM/PDM system wherein at the receiver end the signal is first demultiplexed using WDM demultiplexer, then each separated signal is pass through a polarizer before entering a receiver; column 13 lines 41-56). Yan discloses a WDM/PDM system instead of a TDM/PDM system, thus a WDM demultiplexer is used instead of a polarization insensitive optical switch for isolating optical pulses within the pulse train.

In related art, LoCascio discloses an optical TDM multiplexing/demultiplexing system. Wherein, the receiving end comprises: a polarization insensitive optical switch for isolating optical pulses within the pulse train (figure 3 shows an optical switch 130 that is configured to isolate data pulses for each output port; paragraph 0050).

A person of ordinary skill in the art would have recognized the possibility modifying the WDM/PDM system to TDM/PDM system. Since WDM and TDM multiplexing is well known in the art, it would not require undue experimentation to modify a WDM multiplexing system into a TDM multiplexing system.

Consider **claim 2, and as applied to claim 1 above**, Yan modified by LoCascio further discloses, a polarization controller for altering the polarization of the isolated pulses, the polarization controller being disposed between the optical switch and the polarization selective

element (Yan discloses in figures 27 and 28, a dynamic polarization controller, DPC, followed by a polarizer is used to reduce polarization-induced crosstalk between adjacent channels; column 13 lines 41-56)

Consider **claim 7, and as applied to claim 6 above**, is rejected for the same reason as claim 2 above.

5. **Claims 3-5 and 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yan et al. (US Patent # 7,067,795)** in view of **LoCascio et al. (US PGPub 2002/0196497)** and in view of **Heismann et al. ("Automatic polarization demultiplexer for polarization-multiplexed transmission systems". Proceedings of the European Conference on Optical Communication (ECOC) MONTREUX, SEPT. 12 - 16, 1993. REGULAR PAPERS, ZURICH, SEV, CH, vol. 2 CONF. 19, 12 September 1993 (1993-09-12), pages 401-404).**

Consider **claim 3, and as applied to claim 2 above**, Yan modified by LoCascio disclose a polarizer splitting the signal into two output ports, one feeds to the receiver and the other feeds to an FBC (Yan figures 27 and 28); but fails to disclose wherein the polarization selective element is a polarization beam splitter having a first output port and a second output port, wherein the first output port emits a first component of the isolated pulses having a first polarization, and the second output port emits a second component of the isolated pulses having a second polarization that is distinct from the first polarization.

In related art, Heismann et al. disclose a polarization demultiplexer for polarization-multiplexed fiberoptic transmission systems. Wherein, the receiver includes an erbium-doped fiber amplifier, an automatic polarization transformer and a fiberoptic polarization splitter (read as, beam splitter) (figure 1; page 402 second paragraph).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teaching of Heismann et al. with Yan modified by LoCascio. In the effort to double transmission capacity, data are modulated into light wave with different polarization. Thus it is necessary at the receiver to have a polarization splitter to separate data for further processing.

Consider **claim 4 and as applied to claim 3 above**, Yan modified by LoCascio and Heismann further disclose, wherein the first output port is connected to a pulse detector for extracting digital information, and the second output port is connected to a power detector that forms, together with the polarization controller and the polarization beam splitter, a control feedback loop for controlling the polarization controller (Yan discloses in figures 27 and 28, a polarizer (polarimeter) for splitting the input signal into two outputs, one feeds to the receiver and the other feeds to an FBC for controlling the DPC; column 13 lines 41-56).

Consider **claim 5, and as applied to claim 4 above**, Yan modified by LoCascio and Heismann further disclose, a clock recovery module that is connected to the pulse detector for extracting a clock signal to be fed to the optical switch (LoCascio discloses in figure 3 a threshold detector 112 for isolating the framing pulses which carry the information for controlling the optical switch 130; thus a person of ordinary skill would have recognized the information carried in the framing pulses is equivalent to a clock signal).

Consider **claim 8, and as applied to claim 6 above**, is rejected for the same reason as claim 4 above.

Consider **claim 9, and as applied to claim 8 above**, Yan modified by LoCascio and Heismann further disclose, wherein the polarization controller is controlled by the control

feedback loop such that the optical power of the second component is minimal (Heismann discloses in figure 1, the polarization transformer adjust the SOP so that output optical power is maximum; page 403, paragraphs 1 and 2).

Note, Heismann et al. disclose a feedback back loop for controlling the polarization transformer in-order to achieve maximum optical power of selected signal; it could be understood by a person of ordinary skill in the art that to maximize the power of a selected channel, power from other channel are minimized in the process.

Conclusion

6. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thi Le whose telephone number is (571) 270-1104. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Thi Le

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER